

What is claimed is:

1. A portable bacteria detector constituted of
5 a hollow container having an opening and
a cap assembly comprising an engaging portion that can
engage with the opening of the hollow container to form a
closed system isolated from the external environment,
wherein
10 said hollow container provides a space for culturing
bacteria, and
said cap assembly is capable of not only detachably
engaging with the opening of the hollow container
but also hermetically sealing the hollow container,
15 said cap assembly being equipped with a sample-
collecting member (sample collector) in a fashion
capable of being inserted into and drawn from the
hollow container,
said bacteria detector comprising
20 (a) a mechanism or structure serving as a storage space
for storing a culture medium used for cultivation of
bacteria to be detected, in such a manner that the
culture medium is not in contact with the sample
collector until the incubation of the sample is
25 started while the sample collector can be brought
into contact with the culture medium for cultivation
of bacteria to be detected when an external force is
applied to a portion for storing the culture medium
upon initiation of bacterial cultivation, and
30 (b) a mechanism or structure serving as a storage space
for storing a disinfectant or germicide in such a
manner that the disinfectant or germicide is not in
contact with the culture medium until the
disinfection or sterilization of the used culture
35 medium is performed while said disinfectant or
germicide can be brought into contact with the used
culture medium when an external force is applied to

a portion for storing the disinfectant or germicide upon initiation of disinfective or sterile performance;

- 5 (1) the cap assembly being formed of a synthetic resin so as to be hollow in shape and having a structure allowing the cap assembly, other than the portion engaging with the opening of the hollow container, to be closed or hermetically sealed against the external environment wherein a hollow space of the cap assembly
- 10 is capable of communicating with a sample collector-accepting space in the hollow container;
- (2) the hollow space of the cap assembly comprising a means for forming at least two independent chambers for liquid, including a first chamber for liquid,
- 15 formed by a first partition member and a first wall portion of the cap body, wherein said first chamber contains a first filled liquid and a second chamber for liquid, formed by a second partition member and a second wall portion of the
- 20 cap body, wherein said second chamber contains a second filled liquid,
- a first opening-forming means for applying an external force to the first wall portion to form an opening in the first liquid chamber,
- 25 and
- a second opening-forming means for applying an external force to the second wall portion to form an opening in the second liquid chamber; and
- (3) the first and second opening-forming means each
- 30 comprising an opening-forming part provided at a portion of the partition member so that the opening-forming part will be opened when an external force is applied outside the wall of the cap body.

35 2. The portable bacteria detector according to claim 1, wherein the opening-forming part of the partition member comprises a stick-like protrusion extending in the

axial direction of the bacteria detector from a partition wall portion of the partition member and a thin-walled fragile part formed at a root of the protrusion.

5 3. The portable bacteria detector according to claim 1 or 2, wherein the cap assembly has an approximately tubular hollow deformable body formed of a synthetic resin, comprising an opening-forming part which allows the
10 formation of an opening in said thin-walled fragile part by abutting the wall of the cap assembly body against the stick-like protrusion in response to an external force applied in a direction approximately perpendicular to the axis of the detector.

15 4. The portable bacteria detector according to any of claims 1 to 3, wherein the first liquid is a culture medium and the second liquid is a disinfectant or a germicide.

20 5. The portable bacteria detector according to any of claims 1 to 4, wherein the second partition member is provided with a concave at a hollow-container side thereof, and a tip of the stick-like protrusion provided for the first opening-forming means is movably fitted into
25 the concave.

 6. The portable bacteria detector according to any of claims 1 to 5, wherein a cross section of the stick-like protrusion provided for the first opening-forming
30 means, cut in a plane perpendicular to the axis of the bacteria detector, has a shape wherein the vertical length is unequal to the horizontal one.

 7. The portable bacteria detector according to
35 any of claims 1 to 6, wherein a cross section of the first wall portion of the cap body, cut in a plane perpendicular to the axis of the bacteria detector, has a shape wherein

the vertical length is unequal to the horizontal one, a cross section of the stick-like protrusion provided to the first opening-forming means, cut in a plane perpendicular to the axis of the bacteria detector, has a shape wherein the vertical length is unequal to the horizontal one, and the first wall portion of the cap body and the stick-like protrusion of the first opening-forming means are arranged so that the cross-sections thereof are similar in the direction of the shape.

10

8. The portable bacteria detector according to any of claims 1 to 7, wherein a cross section of the stick-like protrusion provided to the second opening-forming means, cut in a plane perpendicular to the axis of the bacteria detector, has a shape wherein the vertical length is approximately equal to the horizontal one.

15

9. The portable bacteria detector according to any of claims 1 to 8, wherein a cross section of the second wall portion of the cap body, cut in a plane perpendicular to the axis of the bacteria detector, has a shape wherein the vertical length is approximately equal to the horizontal one.

20

10. The portable bacteria detector according to any of claims 1 to 9, wherein the bacteria detector further comprises a movable protecting sheath disposed outside the second wall portion of the cap body.

25

30